

Abstract Submitted  
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**Inhomogeneity of Type I Collagen Gels** OLGA S. LATINOVIC, H. DANIEL OU-YANG, Physics Dept, Lehigh University — This paper reports a study of inhomogeneity of the gels by comparing the structural and micromechanical properties of Type I Collagen solutions. Using thermal fluctuations and forced oscillations of the particles embedded in the gel matrix, we use oscillating optical tweezers to determine local viscoelastic response of the matrix in the vicinity of the probe particle. Phase contrast and confocal fluorescence microscopy studies reveal phase separation in the gels with sparse and dense regions of fibril network. The inhomogeneity persists through the sol-gel transition. This study establishes correlation between the structural inhomogeneity and micromechanical properties in terms of local network density.

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